

ABSTRACT OF DISCLOSURE

The present invention relates to a facilitated transport membrane for separation of alkene hydrocarbons from hydrocarbon mixtures, comprising a porous supported membrane and a solid polymer electrolyte layer consisting of a transition metal salt and a polymer having double carbon bonds. The facilitated transport membrane according to the present invention is prepared by forming a solid polymer electrolyte layer on a porous supported membrane, in which the solid polymer electrolyte consists of a transition metal salt and a polymer having double carbon bonds capable of selectively and reversibly forming a complex with alkene hydrocarbons. In particular, the polymer matrix allows the transition metal salt to be well dissociated because it contains carbon double bonds capable of forming a complex with an ion of a transition metal. The facilitated transport membrane thus prepared is characterized in that its permeance and selectivity to alkene hydrocarbons is high and in that the complex of a metal and polymer ligand in the solid polymer electrolyte sustains its activity as a carrier for alkene hydrocarbons even under long-term dry operating conditions.